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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Luzhou Xu

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84274

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Docket Clerk

P.O. Box 802432

Dallas, TX 75380

EXAMINER

FLORES, LEON

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

07/20/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/500,548	Applicant(s) XU ET AL.	
	Examiner LEON FLORES	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 8 and 12-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7 and 9-11 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In view of the appeal brief filed on 03/30/2009, PROSECUTION IS HEREBY REOPENED. An Ex-Parte Quayle (or new ground of rejection) set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below: /Mohammad H Ghayour/

Supervisory Patent Examiner, Art Unit 2611

Response to Arguments

Ground of Rejection #1

2. Applicant asserts that "*claim 1 recites "at least two fingers and a combiner coupled to said fingers." The Examiner contends that block 710 in Sih teaches a "combiner" coupled to at least two fingers. However, Sih discloses that block 710 merely computes a weighted average of the frequency errors. As such, block 710 is not*

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a combiner coupled to the fingers. At best, block 710 is a computational block configured to perform a weighted average calculation”.

The examiner respectfully disagrees. The reference of Sih does teach a combiner (See fig. 7: 710) coupled to at least two fingers. Element 710 computes a weighted average for a plurality of fingers. One skilled in the art would know that in order to take the average, one must first add (combine) each element. However, taking the contrary, appellant is reminded that MPEP **MPEP 2141.02** states:

A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984)

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Having said this, in another embodiment, the reference of Sih does teach another combiner. (figure 6: 650) Therefore, the concept of utilizing a combiner to add the outputs of a plurality of fingers is not novel.

3. Applicant further asserts that *"Prysby only teaches or suggests the use of time and phase corrections. Prysby contains no disclosure of compensating for "frequency shift at the symbol level." The Examiner contends that Prysby teaches compensation for frequency shift at the symbol level in Figure 1, elements 101 & 103 "symbols" of Prysby.*³ The Examiner also states that *"one skilled in the art would recognize that frequency is related to phase"*.

The examiner respectfully disagrees. The examiner did state in his rejection that one skilled in the art would know that frequency is related to phase. And to prove that frequency & phase are related to each other, the examiner is providing evidence in which frequency is, in deed, related to phase. **(See US Patent 6,278,725 B1)**

Equation 5 clearly shows that the change in frequency is directly proportional to how the phase changes with respect to time. It is clear from equation 5 that if the change in phase of the received signal is corrected, in other words we make the derivative of the phase equal to zero, then the left hand side, which is the frequency drift, of equation 5 will be equal to zero. And there won't be any frequency drifts. The reference of Prysby does teach compensating for phase errors at the symbol level, whereby suggesting that the frequency drifts will also be corrected based on equation 5 above.

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However, since this explanation was not previously stated in any of the office actions the examiner is hereby issuing a new ground of rejection.

4. Applicant further asserts that *"Phase is a position at a point in time (instant) on a waveform cycle. Frequency shift is a change in the frequency of a signal. Therefore, a teaching of phase correction is not "related to" a teaching of frequency shift compensation"*.

The examiner agrees. The examiner agrees with the definition of phase & frequency. However, the applicant is silent with regards to how these two are related. In order to show that frequency & phase are related to each other, the examiner is providing evidence in which frequency is, in deed, related to phase. **(See US Patent 6,278,725 B1)**

Equation 5 clearly shows that the change in frequency is directly proportional to how the phase changes with respect to time. Having said this, the examiner respectfully disagrees with applicant's statement that phase is not related to frequency.

5. Applicant further asserts that *"the Examiner provides no citation to support any conclusion that frequency shift compensation is equivalent to or suggested by time and phase correction. The Examiner merely makes a conclusory statement that Prysby as a whole provides the necessary disclosure because "frequency is related to phase,"³² which is clear error"*.

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The examiner respectfully disagrees. In order to show that frequency & phase are related to each other, the examiner is providing evidence in which frequency is, in deed, related to phase. **(See US Patent 6,278,725 B1)**

Equation 5 clearly shows that the change in frequency is directly proportional to how the phase changes with respect to time. Having said this, the reference of Prysby does teach compensating for the phase, thus suggesting that if the phase is corrected so will the frequency deviation.

6. Applicant further asserts that *"Prysby teaches away from compensation at the symbol level. Prysby states "[by] combining multipath components of the transmitted signal at the chip level, no need exists for the complexities of combining at the symbol level."* 33 Therefore, Prysby discloses that attempting to compensate at the symbol level creates a problem because complex hardware is required. Accordingly, Prysby teaches away from *"wherein each of the at least one two fingers comprises a finger compensator that compensates for frequency shift at the symbol level."*

The examiner respectfully disagrees. The reference of Prysby does teach the concept of compensating for frequency drift at the symbol level is not novel, and therefore, is not patentable. However, the examiner would like to point out that if the appellant argues the reference of Prysby creates a problem by providing compensation at the symbol level, so why is the appellant trying to do this?

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Ground of Rejection #2

7. Applicant further asserts that “claim 2 recites that the filter and amplitude normalizer are “coupled serially.” Whether an “amplitude normalizer or coefficients” are “inherent features within a filter” is irrelevant. The issue is whether it is obvious to couple a filter and an amplitude normalizer serially to receive an input symbol signal and generate an output symbol signal. Ling discloses the use of a pilot filter 160 without any amplitude normalizer coupled serially to the pilot filter 160”.

The examiner respectfully disagrees. The reference of Ling does teach that element 160 may be implemented as either an IIR or FIR filter. One skilled in the art would know that, by definition, FIR filters operate in this manner.

$$y[n] = \sum_{i=0}^N b_i x[n-i].$$

Where x is the input signal, b is the filter coefficients, and y is the output signal.

However, taking the contrary, appellant is reminded that **MPEP 2144 states that:**

In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950) (Claims to a hydraulic power press which read on the prior art except with regard to the position of the starting switch were held unpatentable because shifting the position of the starting switch would not have modified the operation of the device.)

Therefore, the mere fact that appellant is rearranging components in order to yield an output signal is not patentable.

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8. Applicant further asserts that *“claim 3 depends from Claim 1. As shown above, Claim 1 is patentable. As a result, Claim 3 is patentable due to its dependence from an allowable base claim”*.

The examiner respectfully disagrees. Since the examiner has already shown that claim 1 is not patentable, claim 3 is also not patentable due to its dependency from claim 1.

Ground of Rejection #3

9. Applicant further asserts that *“claim 4 depends from Claim 1. As shown above, Claim 1 is patentable. As a result, Claim 4 is patentable due to its dependence from an allowable base claim. Accordingly, the rejection of • Claim 4 under § 103 is improper and should be withdrawn”*.

The examiner respectfully disagrees. Since the examiner has already shown that claim 1 is not patentable, claim 4 is also not patentable due to its dependency from claim 1.

Ground of Rejection #4

10. Applicant further asserts that *“claim 5 depends from Claim 1. As shown above, Claim 1 is patentable. As a result, Claim 5 is patentable due to its dependence from an allowable base claim. Accordingly, the rejection of Claim 5 under § 103 is improper and should be withdrawn”*.

The examiner respectfully disagrees. Since the examiner has already shown that claim 1 is not patentable, claim 5 is also not patentable due to its dependency from claim 1.

Ground of Rejection #5

11. Applicant further asserts that *"the Examiner states that the advantage of providing frequency offset compensation at the symbol level to compensate for channel impairments is not apparent, so it would have been obvious to incorporate this feature into Sih for the benefit of channel improvements. The Examiner's conflicting statements and unsupported rationale illustrate that the Examiner is relying upon hindsight reconstruction from Appellants' application, which is clear error"*.

The examiner respectfully disagrees. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Ground of Rejection #6

12. Applicant further asserts that *"claim 2 is also patentable in light of its own recitations. As noted above, the Examiner asserts that Ling discloses the use of a filter (element 160) and that "one skilled in the art would know that amplitude normalizer or coefficients are inherent features within a filter." 36 However, the Examiner never cites any art showing that this is obvious and well-known in the art, and Ling discloses the*

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use of a pilot filter 160 without any amplitude normalizer coupled serially to the pilot filter 160”.

The examiner respectfully disagrees. The reference of Ling does teach that element 160 may be implemented as either an IIR or FIR filter. One skilled in the art would know that, by definition, FIR filters operate in this manner.

$$y[n] = \sum_{i=0}^N b_i x[n-i].$$

Where x is the input signal, b is the filter coefficients, and y is the output signal.

However, taking the contrary, applicant is reminded that **MPEP 2144 states that:**

In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950) (Claims to a hydraulic power press which read on the prior art except with regard to the position of the starting switch were held unpatentable because shifting the position of the starting switch would not have modified the operation of the device.)

Therefore, the mere fact that applicant is rearranging components in order to yield an output signal is not patentable.

13. Applicant further asserts that “*claim 3 depends from Claim 1. As shown above, Claim 1 is patentable. As a result, Claim 3 is patentable due to its dependence from an allowable base claim*”.

The examiner respectfully disagrees. Since the examiner has already shown that claim 1 is not patentable, claim 3 is also not patentable due to its dependency from claim 1.

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Ground of Rejection #7

14. Applicant further asserts that *"claim 4 depends from Claim 1. As shown above, Claim 1 is patentable. As a result, Claim 4 is patentable due to its dependence from an allowable base claim"*.

The examiner respectfully disagrees. Since the examiner has already shown that claim 1 is not patentable, claim 4 is also not patentable due to its dependency from claim 1.

Ground of Rejection #8

15. Applicant finally asserts that *"claim 5 depends from Claim 1. As shown above, Claim 1 is patentable. As a result, Claim 5 is patentable due to its dependence from an allowable base claim"*.

The examiner respectfully disagrees. Since the examiner has already shown that claim 1 is not patentable, claim 4 is also not patentable due to its dependency from claim 1.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

18. Claim (1, 6-7, 9-11) are rejected under 35 U.S.C. 103(a) as being unpatentable over Sih et al (hereinafter Sih)(US Patent 6,608,858 B1) in view of Prysby et al. (hereinafter Prysby) (US Patent 6,888,878 B2).

Re Claim 1, Sih discloses a rake receiver comprising at least two fingers (In Fig. 7: 700A & B), and a combiner (710) coupled to said fingers.

But the reference of Sih fails to explicitly teach that wherein each of the at least two fingers comprises a finger compensator that compensates for frequency shift at the symbol level.

However, Prysby does. (See fig. 1: 101 & 103) Prysby discloses a plurality of RAKE fingers that provide time and phase compensation at the symbol level. Furthermore, one skilled in the art would know that frequency is related to the phase. And to prove that frequency & phase are related to each other, the examiner is providing evidence in which frequency is, in deed, related to phase. **(See US Patent 6,278,725 B1)** Equation 5 clearly shows that the change in frequency is directly proportional to how the phase changes with respect to time. It is clear from equation 5 that if the change in phase of the received signal is corrected, in other words we make the derivative of the phase equal to zero, then the left hand side, which is the frequency drift, of equation 5 will be equal to zero. And there won't be any frequency drifts. The reference of Prysby does teach compensating for phase errors at the symbol level,

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whereby suggesting that the frequency drifts will also be corrected based on equation 5 above.

Therefore, taking the combined teachings of Sih and Prysby as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature into the system of Sih, in the manner as claimed and as taught by Prysby, for the benefit of compensating for the channel impairments.

Re Claim 6, the combination of Sih and Prysby further teaches that most fingers each comprise a finger compensator, with all finger compensators together forming said compensator. (In Sih, see fig. 7)

Re Claim 7, the combination of Sih and Prysby further teaches that said rake receiver comprises a mixer for converting intermediate frequency signals into baseband signals, which mixer comprises an oscillator input coupled to a stable oscillator (In Sih, fig. 2, where a mixer 112 and an oscillator 220 are disclosed for converting IF signals to baseband signals).

Claim 9, has been analyzed and rejected w/r to claim 1 above. Furthermore, the combination of Sih and Prysby pertains to a CDMA communications system comprising base stations and mobile units. Communications between base stations and mobile units is by way of mobile telephone switching office (MTSO) and public switch telephone

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network (PSTN) (In Sih, see col. 1, line 49-55).

Claim 10 has been analyzed and rejected w/r to claim 9 above.

Claim 11 has been analyzed and rejected w/r to claim 9 above.

19. Claims (2 & 3) are rejected under 35 U.S.C. 103(a) as being unpatentable over Sih et al. (hereinafter Sih)(US Patent 6,608,858 B1) and Prysby et al (hereinafter Prysby) (US Patent 6,888,878 B2), as applied to claim 1 above, and further in view of Ling et al (hereinafter Ling) (US Patent 6,363,102 B1).

Re Claim 2, the combination of Sih and Prysby fails to specifically disclose that said finger compensator comprises a filter and an amplitude normalizer coupled serially for receiving an input symbol signal and for generating an output symbol signal.

However, Ling does. (See fig. 3: 160 & col. 7, lines 34-45) Ling discloses a filter and an amplitude normalizer coupled serially for receiving an input symbol signal and for generating an output symbol signal. (See fig. 3: 160). Furthermore, one skilled in the art would know that amplitude normalizer or coefficients are inherent features within a filter.

Therefore, taking the combined teachings of Sih, Prysby, and Ling as a whole, it would have obvious to one of ordinary skill in the art to further incorporate a filter and an amplitude normalizer in the manner as claimed into the system of Sih, as modified by Prysby, for the benefit of producing an estimate of the channel. (See col. 7, lines 34-35)

Re Claim 3, the combination of Sih, Prysby, and Ling further discloses that said finger compensator further comprises a first arithmetical module for multiplying said input symbol signal with a conjugated previous input symbol signal (In Ling, see fig. 2: 140) and a second arithmetical module for multiplying said output symbol signal with a previous output symbol signal as claimed. (It is notoriously well known in the art that in order to mitigate multi-path interference, it is imperative that an auto correlation be performed on a delayed signal and the signal itself.)

20. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sih et al. (hereinafter Sih)(US Patent 6,608,858 B1), Prysby et al (hereinafter Prysby) (US Patent 6,888,878 B2), and Ling et al (hereinafter Ling) (US Patent 6,363,102 B1), as applied to claim 2 above, and further in view of Ishizu et al (hereinafter Ishizu) (US Publication 2002/0015438 A1).

Re Claim 4, the combination of Sih, Prysby, and Ling further teaches a rake receiver characterized in that said at least one finger comprises a pilot channel correlator and a traffic channel correlator (In Ling, see fig. 1: 120 & 130).

But the combination of Sih, Prysby, and Ling fail to specifically disclose an output of said finger compensator being coupled to first inputs of a third and fourth arithmetical module, of which second inputs are coupled to outputs of said correlators.

However, Ishizu does. (See fig. 14: 3d & 3e, paragraph 10) Ishizu discloses a an output of said finger compensator being coupled to first inputs of a third and fourth arithmetical module (See fig. 14: the output of element 3c is coupled to elements 3d &

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3e, and the output of each despreader, elements 3a & 3b, are second inputs to elements 3d & 3e), of which second inputs are coupled to outputs of said correlators.

Therefore, taking the combined teachings of Sih, Prysby, Ling, Ishizu as a whole, it would have obvious to one of ordinary skill in the art to have modified the system of Sih, as modified by Prysby and Ling, and as taught by Ishizu, for the benefit of providing phase compensation. (See paragraph 10)

21. Claim (1, 6-7, 9-11) are rejected under 35 U.S.C. 103(a) as being unpatentable over Sih et al. (hereinafter Sih)(US Patent 6,608,858 B1)

Re Claim 1, Sih discloses a rake receiver comprising at least two fingers (In Fig. 7: 700A & B), and a combiner (710) coupled to said fingers.

But the reference of Sih fails to explicitly teach that wherein each of the at least two fingers comprises a finger compensator that compensates for frequency shift at the symbol level.

However, the reference of Sih does teach compensating for frequency offsets at the sample level. But the examiner does not see the difference/advantage of providing frequency offset compensation at the symbol level, as opposed to at the sample level if the objective is to compensate for the channel impairments.

Therefore, it would have been obvious to one of ordinary skills in the art to incorporate this feature into the system of Sih, in the manner as claimed, for the benefit of compensating for the channel impairments.

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Re Claim 6, Sih further teaches that most fingers each comprise a finger compensator, with all finger compensators together forming said compensator. (In Sih, see fig. 7)

Re Claim 7, the reference of Sih further teaches that said rake receiver comprises a mixer for converting intermediate frequency signals into baseband signals, which mixer comprises an oscillator input coupled to a stable oscillator (In Sih, see fig. 2, where a mixer 112 and an oscillator 220 are disclosed for converting IF signals to baseband signals).

Claim 9, has been analyzed and rejected w/r to claim 1 above. Furthermore, the reference of Sih pertains to a CDMA communications system comprising base stations and mobile units. Communications between base stations and mobile units is by way of mobile telephone switching office (MTSO) and public switch telephone network (PSTN) (In Sih, see col. 1, line 49-55).

Claim 10 has been analyzed and rejected w/r to claim 9 above.

Claim 11 has been analyzed and rejected w/r to claim 9 above.

22. Claims (2 & 3) are rejected under 35 U.S.C. 103(a) as being unpatentable over Sih et al. (hereinafter Sih)(US Patent 6,608,858 B1), as applied to claim 1 above, and further in view of Ling et al. (hereinafter Ling) (US Patent 6,363,102 B1)

Re Claim 2, the reference of Sih fails to specifically disclose that said finger compensator comprises a filter and an amplitude normalizer coupled serially for receiving an input symbol signal and for generating an output symbol signal.

However, Ling does. (See fig. 3: 160 & col. 7, lines 34-45) Ling discloses a filter and an amplitude normalizer coupled serially for receiving an input symbol signal and for generating an output symbol signal. (See fig. 3: 160) Furthermore, one skilled in the art would know that amplitude normalizer or coefficients are inherent features within a filter.

Therefore, taking the combined teachings of Sih and Ling as a whole, it would have obvious to one of ordinary skill in the art to further incorporate a filter and an amplitude normalizer in the manner as claimed into the system of Sih, for the benefit of producing an estimate of the channel. (See col. 7, lines 34-35)

Re Claim 3, the combination of Sih and Ling further discloses that said finger compensator further comprises a first arithmetical module for multiplying said input symbol signal with a conjugated previous input symbol signal (In Ling, see fig. 2: 140) and a second arithmetical module for multiplying said output symbol signal with a previous output symbol signal as claimed. (It is notoriously well known in the art that in order to mitigate multi-path interference, it is imperative that an auto correlation be performed on a delayed signal and the signal itself.)

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23. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sih et al. (hereinafter Sih)(US Patent 6,608,858 B1) and Ling et al (hereinafter Ling) (US Patent 6,363,102 B1), as applied to claim 2 above, and further in view of Ishizu et al (hereinafter Ishizu) (US Publication 2002/0015438 A1).

Re Claim 4, the combination of Sih and Ling further teaches a rake receiver characterized in that said at least one finger comprises a pilot channel correlator and a traffic channel correlator (In Ling, see fig. 1: 120 & 130).

But the combination of Sih and Ling fails to specifically disclose an output of said finger compensator being coupled to first inputs of a third and fourth arithmetical module, of which second inputs are coupled to outputs of said correlators.

However, Ishizu does. (See fig. 14: 3d & 3e, paragraph 10) Ishizu discloses an output of said finger compensator being coupled to first inputs of a third and fourth arithmetical module (See fig. 14: the output of element 3c is coupled to elements 3d & 3e, and the output of each despreader, elements 3a & 3b, are second inputs to elements 3d & 3e), of which second inputs are coupled to outputs of said correlators.

Therefore, taking the combined teachings of Sih, Ling, and Ishizu as a whole, it would have obvious to one of ordinary skill in the art to have modified the system of Sih, as modified by Ling, and as taught by Ishizu, for the benefit of providing phase compensation. (See paragraph 10)

Claim Rejections - 35 USC § 102

24. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

25. **Claims (1, 9-11) are rejected under 35 U.S.C. 102(b) as being anticipated by Roupael et al. (hereinafter Roupael) (US Patent 6,278,725 B1)**

Re claim 1, Roupael discloses a Rake receiver for receiving information symbols, comprising at least two fingers (See fig. 3: 210, 212, 214 & col. 5, lines 41-42) and a combiner (207) coupled to said fingers, wherein each of the at least one two fingers comprises a finger compensator that compensates for frequency shift at the symbol level. (See fig. 3: 250, 255, 260 & col. 5, lines 50-54 "symbol level", col. 6, lines 16-25 "are the corrected frequencies as shifted by the Doppler shift")

Claim 9, has been analyzed and rejected w/r to claim 1 above. Furthermore, the reference of Roupael pertains to a CDMA communications system comprising base stations and mobile units. Communications between base stations and mobile units is by way of mobile telephone switching office (MTSO) and public switch telephone network (PSTN) (In Sih, see col. 7, lines 11-14).

Claim 10 has been analyzed and rejected w/r to claim 9 above.

Claim 11 has been analyzed and rejected w/r to claim 9 above.

Allowable Subject Matter

26. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

27. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Kanemoto et al (US Publication 2004/0013169 A1) disclose a phase rotation detection apparatus wherein the frequency offset is used in order to achieve phase rotation.

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEON FLORES whose telephone number is (571)270-1201. The examiner can normally be reached on Mon-Fri 7-5pm Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Examiner, Art Unit 2611
July 9, 2009

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